

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	RM-8658
Section 68.4 of the Commission's Rules)	
Hearing Aid Compatible Telephones)	

Request to Reopen the Petition for Rule Making

Introduction

I submit these comments in response to the Wireless Action Coalition's (WAC) request that the Federal Communications Commission (FCC) reopen the Petition for Rule Making in the Matter of Section 68.4 (a) of the FCC's Rules, Hearing Aid Compatible Telephones. I am an individual with severe to profound hearing loss.

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My hearing loss occurred in 1984 during a time when my job required heavy use of a telephone. The HAC was not in effect at that time, but luckily my office phone did provide some inductive coupling. However, I found that many other phones in the office complex did not provide any inductive coupling at all and that limited my ability to move freely around the complex, using a phone whenever the need arose.

My co-workers could do that, so my lack of being able to tele-communicate away from my office negatively affected my work performance.

Today, my hearing loss has deteriorated more and my work environment has changed to working at home and I can use a wireline phone that has a really strong electromagnetic field. However, I find that I must be away from home for several days and a wireless phone should be a practical way to keep up with necessary voice communication. If I am at a hotel, for example, I can not depend on being able to use a hotel phone or a pay phone. People that do not have hearing loss find that wireless phones gives them the freedom to move about and keep up with business. People with hearing loss and other disabilities should have the same opportunity.

I understood the need at the time to exempt wireless phone from the HAC since the interference to hearing aids makes inductive coupling practically impossible and essentially useless. Interference is still a problem, but Section 255 of the Telecommunication Act of 1996 states that CPE must not cause interference to hearing aids. As more wireless phone manufacturers find ways to reduce or eliminate interference, then HAC for wireless phone should be practical.

It has been my observation that some designs are helpful in reducing inference:

1. The “clamshell” or “flip phone” physical arrangement places the electronics of the phone farther away from the hearing aid. In my own research to the interference

problem, I believe it is the electronics package itself that causes interference rather than the phone's antenna. An antenna only emits radiation at a very high frequency, much higher than any hearing aid can receive. But due to the switching on and off with digital protocols, a cell phone effectively emits radiation in the audio range that sounds like a buzz or hum. The intensity of buzz is much higher than speech signals making the cell phone useless when placed close to a hearing aid. As the cell phone is moved away from a hearing aid, the interference reduces dramatically, giving further evidence that it is not the antenna and RF transmission that is causing interference.

2. Designs that place shielding between the electronics package and the hearing aid may be helpful. Since all wireless phones need a battery, the battery can serve as a shield if it is placed between the electronics package and the hearing aid.

3. I have designed a system that effectively reduces interference from a Nokia cell phone that is based on keeping the cell phone away from my hearing aids. Since the interference radiation is at an audio frequency it does not propagate over great distances like RF radiation. While my method works, it does not give me the convenience of a HAC handset, and it does not always work depending on signal strength as noted below.

4. Signal strength is a factor in interference. When I am close to a cell tower and see a signal strength of four, (four being the highest signal) interference is greatly

reduced. This must be because the transmitter in the cell phone works at a lower power level in good signal areas. An obvious solution is to have more cell towers so I am always in a signal four area. Short of that, cell phone manufacturers may be able to offer more efficient antennas as an option to help solve interference.

5. I receive reports from friends who recommend a particular phone to have low interference. In most cases, it is impossible for me to confirm if those phones have low interference with my hearing aids because all phones are not supported on all networks. I am yet to find a phone supported by my current wireless service provider that has low interference. Also, I do not live in a metropolitan area and I have little choice as to which service provider I can use. Looking at the ads for wireless phones and all the features they provide, it really seems like a small thing for them to incorporate accessibility. Very soon phones will be available that incorporate PDA functions, WEB browsing, email, streaming audio, streaming video, and a host of exciting features. To stay competitive, I need those features just like other people, but it is not likely that I would opt for those features without the basic feature of being able to talk with someone in voice mode.

6. Looking to the future, it is conceivable that the technologies used in wireless phones may make ordinary wireline phones obsolete and unavailable. I envision a neighborhood cell tower that serves all residents in that neighborhood as their only method of receiving telephone service. It is imperative that non-interference and

electromagnetic compatibility be achieved before that happens.

In light of the observations above, it does appear that the interference problem can be and must be reduced to a satisfactory level. Eliminating the exemption for wireless phones under the HAC will speed up the process. Except for the interference problem, I do not think there is a valid reason why wireless phones cannot emit a strong electromagnetic field that will inductively couple with my hearing aids just like other phones.